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NOTES ON GEOGRAPHIC DISTRIBUTION

Diptera, Drosophilidae, *Zaprionus indianus* Gupta, 1970: distribution extension for the state of Mato Grosso do Sul, Brazil

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ABSTRACT: *Zaprionus indianus* Gupta, 1970 is reported for the first time in the state of Mato Grosso do Sul, Brazil. During a study on synanthropic flies, a total of 13,797 specimens of *Zaprionus indianus* were collected using traps containing dog feces as bait.

The genus *Zaprionus* Coquillett, 1902 is divided into two subgenera and has a total of 57 species (Yassin and David 2010). One species, *Z. indianus* Gupta, 1970, is spreading through the tropical regions of the World, probably due to the intensification of global trade of fruits (Kato *et al.* 2004). The main characteristics of *Z. indianus* (Figure 1) are: a brown body between 2.5 to 3.0 mm in length, red eyes, and a pair of silvery-white stripes with longitudinal black borders from the head to the apex of the scutellum (Gupta 1970) (Figure 1).

In Brazil, *Z. indianus* was reported for the first time by Vilela *et al.* (1999) infesting persimmon fruit in the municipality of Santa Isabel, state of São Paulo. Besides São Paulo, this invasive alien drosophilid has been recorded in the states of Rio Grande do Sul, Santa Catarina, Rio de Janeiro, Minas Gerais, Distrito Federal, Bahia, Ceará (Galego and Carareto 2010), Maranhão, Rondônia and Pará (Tidon *et al.* 2003), and at the insular island of Fernando de Noronha (Oliveira *et al.* 2009).

In this paper we report for the first time the occurrence of *Z. indianus* in the state of Mato Grosso do Sul.

Specimens of *Z. indianus* were found during a study on synantropic flies in a Brazilian savanna (cerrado) fragment. Traps modified from Ferreira (1978), using dog feces as bait, had been placed in two localities, as follows: (A) near small buildings, away from garbage and sporadic human interference (20°27' 56.22" S, 54°39' 27.56" W), and (B) near houses with gardens, fruit trees, garbage and constant human presence (20°28'18.85" S, 54°39'06.24" W). The traps remained armed for eight consecutive days during July, September and November 2008, and January, March and May 2009. Vouchers are deposited at the Coleção de Referência Zoológica, Universidade Federal de Mato Grosso do Sul, Campo Grande.

Climatic data such as temperature and relative humidity were obtained from the Meteorological Station of Campo Grande, Brazilian Air Force.

A total of 13,797 individuals of *Zaprionus indianus* fell in the traps. Most of the specimens (99.8%) were collected in the more disturbed area (area B above), during the months of more rainfall precipitation (Table 1). Species identification was confirmed using van der Linder (2010) and Yassin and David (2010).

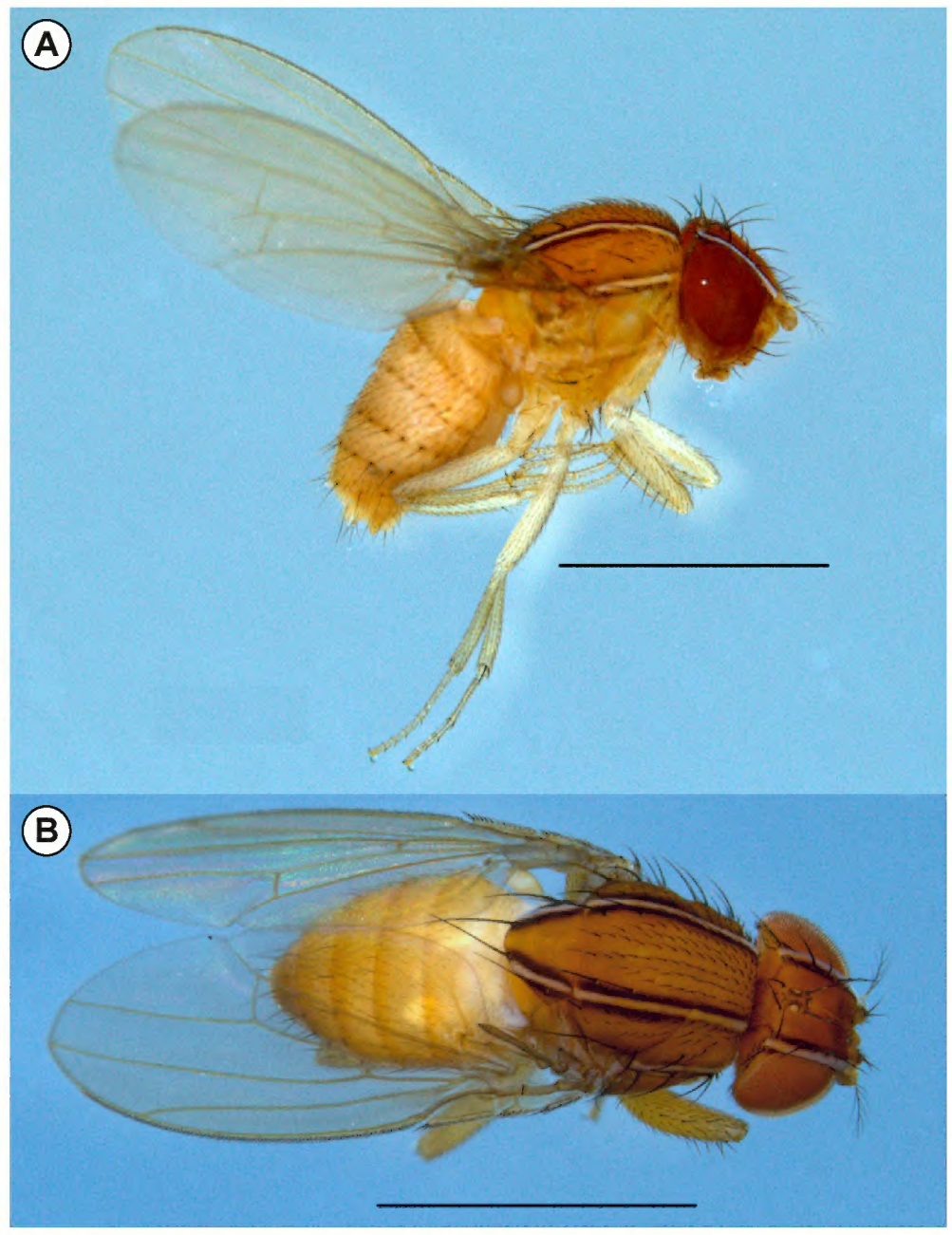

FIGURE 1. *Zaprionus indianus* collected in Campo Grande, Mato Grosso do Sul, Brazil. A) lateral view; B) dorsal view. Scale bar = 1 mm.

In others regions of Brazil, the abundance of *Z. indianus* does not seem to be affected by the conservation status (degree of anthropogenic activities) of the environment

(Ferreira and Tidon 2005; Silva *et al.* 2005). According to Tidon *et al.* (2003), *Z. indianus* is one of the dominant species of fig flies in the Cerrado, especially during the rainy season (October to April).

Zaprionus indianus is known as the fig fly and a pest of this fruit (Vilela *et al.* 1999), but has polyphagous habits. Besides figs, the fly attacks star fruit, persimmon, and many other fruits (Silva *et al.* 2004). Roque *et al.* (2006) observed the emergence of adults of *Zaprionus indianus* from basidiomycetes fungi in Cerrado. This drosophilid was also found in a domestic pig (Large White race) carcass of 15 pounds, in a study carried out in a pasture area in the cerrado *senso stricto* (José Roberto Pujol-Luz, Universidade de Brasília, personal communication).

The presence of a great number of individuals of *Z. indianus*, a relatively recent invasive alien species, in a trap containing dog feces, especially in an anthropic environment, is an indication that this fly exhibits opportunistic behavior (Vilela *et al.* 1999; Raga *et al.* 2003; Kato *et al.* 2004; Silva *et al.* 2004) and has a potential to become synanthropic.

Table 1. Number of *Zaprionus indianus* collected in each site during 2008 and 2009 period and rainfall precipitation in Campo Grande, MS, Brazil.

YEAR MONTH	HOUSE AREA	"CERRADO" FRAGMENT FOREST	RAINFALL (MM)
2008			
July	0	0	0
September	0	0	37.5
November	2,245	3	77.5
2009			
January	7,659	11	147.7
March	3,858	20	262.6
May	1	0	50.9
Total	**13,763**	**34**	

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